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EXAMINER

KIM, SANG K

ART UNIT PAPER NUMBER

3654

DATE MAILED: 02/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/743,184

Applicant(s)

MANNIKKO, ARI

Examiner

SANG KIM

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

P r i d for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disp sition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Pri rity under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Specification

The specification is objected to because it is missing headings throughout the specification (e-h). Correction is required. See MPEP § 608.01(b).

Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.
- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.

Or alternatively, Reference to a "Microfiche Appendix": See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.
- (e) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
 - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."

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- (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (f) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.
- (g) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (h) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (i) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet (37 CFR 1.52(b)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).

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- (j) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).
- (k) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 7-11, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Korhonen, WO 96/20121, in view of Keip, U.S. Patent No. 5921739.

Referring to claims 1 and 19, Korhonen teaches an apparatus for handling stacked units of boards, comprising a stacker carrier 5 capable of moving a plurality of stacked units 2 which can be stacks placed on a support bed 4 which can be pallets in a storage area 1 into storage stacks and off from said storage stacks, respectively, having lift units 15 located on the both side, adapted to the opposite sides of said stacker carrier 5 as shown in FIG. 6, said lift units 15 being individually movable and arranged

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to cooperate so as to elevate/lower the stacked units 2 of boards resting on said support bed 4, a lift element (no reference number assigned) serving to elevate and lower the lift units 15 using the chain drive as shown in FIG. 6.

Korhonen does not disclose enough details of the lift units 15 to determine whether they comprise pivot shafts which are rotatably mounted and/or a plurality of lift elements from Fig. 6.

Keip does teach the lift units 42, 43 rotatably mounted on pivot shafts as shown in FIGS. 2, 3, and 10, and described in column 2, lines 55-58.

It would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the apparatus of Korhonen to include lifting units that can rotate by pivot shafts as taught by Keip to provide a degree of freedom of movement to the lifting units during the engagement of the object to be lifted or transported; and provide another lift element on the other side in order to keep a load level when lifting.

Referring to claim 2, Korhonen teaches the lift units 15 includes load support members (no reference number assigned) as shown in FIG. 6 and, respectively, the support bed 4 includes mating member (no reference number assigned) for locking the support bed 4 to the lift units 15 using at least by two edges on opposite sides of the pallet, at least for the duration of a lifting operation as described on page 7, lines 25-35.

Referring to claims 3 and 9, Korhonen teaches said load support members (no reference number assigned) as shown in FIG. 6, and said mating member (no reference number assigned) are provided with interlocking mating shapes as described on page 7, lines 25-35.

Referring to claims 4 and 10-11, Korhonen teaches said support members (no reference number assigned) are provided with a protruding part (no reference number assigned) forming an angle with the horizontal plane during the lifting operation as shown in FIG. 6.

Referring to claim 7, Korhonen teaches at least two opposite edges of the support bed 4 are provided with mating members (no reference number assigned) capable of locking said support member (no reference number assigned) of said lift units to said support bed 4 as shown in FIG. 6 and described on page 7 lines 25-35.

Referring to claim 8, Korhonen teaches a support bed, and said mating member (no reference number assigned) of said support bed 4 are formed by edges as described on page 7 lines 25-35. Korhonen is silent on the bracket edges slanted downward by an angle from the horizontal plane.

Keip teaches a pallet with the bracket edges slanted downward as shown in FIGS. 3 and 10

It would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the apparatus of Korhonen to have the bracket edges slanted downward as taught by Keip to provide a different configuration of pallet and to be able to grab with the lifting units.

Referring to claim 20, Keip teaches roller members 61 adapted to run with in column legs 12, 31, 29, 32, as show in Figs. 2-10.

Claims 5, and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Korhonen in view of Keip as applied to claims above, and further in view of Anderson, U.S. Patent No. 5492067 and Suzuki et al, U.S. Patent No. 4702008.

Referring to claims 5, and 12-14, Korhonen teaches said lift units 15 is actuated by two drive shafts driving said plurality of lift elements, said plurality of lift elements being a plurality of lift chains as shown in FIG. 6, and wherein said drive shafts are arranged to be driven by at least one drive unit (no reference number assigned) but uses the pressurized-medium drive system actuating the grabber elements as described on page 8 lines 1-2. Korhonen is silent on a drive unit equipped with a variable-frequency inverter and an angular pulse encoder or a similar position transducer.

Anderson teaches a variable-frequency inverter on page 9, claim 2 and encoder 89, 91 on page 6 line 28, but not an angular pulse encoder.

Suzuki et al teaches an angular pulse encoder on page 2 line 27.

It would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the apparatus of Korhonen to include a variable-frequency inverter as taught by Anderson and an angular pulse encoder as taught by Suzuki et al to compensate an angular movement of the drive units when engaging and lifting the stacked units off the support bed.

Claims 6, 15-17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Korhonen in view of Keip as applied to claims above, and further in view of Curran, U.S. Patent No. 4976336.

Referring to claims 6, 15-17, Korhonen teaches said actuator means as shown in FIG. 6 and described on page 8 lines 1-2. Korhonen is silent on the actuator means that is a master and slave actuators.

Curran teaches the actuator means with a master and slave actuators on page 10, claim 1 lines 44 and 59.

It would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the apparatus of Korhonen to include a master and slave actuators as taught by Curran to provide one actuator to control over the other actuator.

Response to Arguments

Applicant's arguments filed on 11/13/2002 have been fully considered but are not persuasive with respect to claims 1-20.

Applicant argues any of the prior art cited by the examiner lacks a plurality of lift elements serving to elevate and lower the lift units.

Examiner disagrees with the applicant because Korhonen shows the lift units 15 located on the both side with a lift element (no reference number assigned) in Fig. 6. Korhonen may not show another lift element on the other side, but as indicated in the above statements that it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the apparatus of Korhonen and provide another lift element on the other in order to keep a load level when lifting.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Kim whose telephone number is (703) 305-3712. The examiner can normally be reached Monday through Friday from 8:00 A.M. to 5:30 P.M. alternating Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathy Matecki can be reached on (703) 308-2688. The fax phone numbers are (703) 308-0552 for regular communications and (703) 305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

SK

2/3/03


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